

2902076-1_ST25.txt
SEQUENCE LISTING

<110> The University of York

<120> Expansion Polypeptides

<130> 2902076.1

<140> 10/573,245

<141> 2006-03-23

<150> PCT/GB04/04058

<151> 2004-08-23

<160> 24

<170> PatentIn version 3.4

<210> 1

<211> 783

<212> DNA

<213> Craterostigma plantagineum

<220>

<221> CDS

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acc agc agc agc cat ttt gcg cgc gcg tat tat ggc ggc gat ggc ggc	96
Thr Ser Ser Ser His Phe Ala Arg Ala Tyr Tyr Gly Gly Asp Gly Gly	
20 25 30	

tgg acc gat gcg cat gcg acc ttt tat ggc ggc agc gat gcg agc ggc	144
Trp Thr Asp Ala His Ala Thr Phe Tyr Gly Gly Ser Asp Ala Ser Gly	
35 40 45	

acc atg ggc ggc gcg tgc ggc tat ggc aac ctg tat agc cag ggc tat	192
Thr Met Gly Gly Ala Cys Gly Tyr Gly Asn Leu Tyr Ser Gln Gly Tyr	
50 55 60	

ggc acc aac acc gcg gcg ctg agc acc gcg ctg ttt aac aac ggc ctg	240
Gly Thr Asn Thr Ala Ala Leu Ser Thr Ala Leu Phe Asn Asn Gly Leu	
65 70 75 80	

agc tgc ggc agc tgc ttt gaa att aaa tgc gcg agc agc att agc ggc	288
Ser Cys Gly Ser Cys Phe Glu Ile Lys Cys Ala Ser Ser Ile Ser Gly	
85 90 95	

ggc ggc aaa tgg tgc ctg ccg ggc ggc agc att acc gtg acc gcg acc	336
Gly Gly Lys Trp Cys Leu Pro Gly Gly Ser Ile Thr Val Thr Ala Thr	
100 105 110	

aac ttt tgc ccg ccg aac aac gcg ctg ccg aac aac gcg ggc ggc tgg	384
Asn Phe Cys Pro Pro Asn Asn Ala Leu Pro Asn Asn Ala Gly Gly Trp	
115 120 125	

tgc aac ccg ccg ctg cag cat ttt gat ctg agc cag ccg gtg ttt cag	432
Cys Asn Pro Pro Leu Gln His Phe Asp Leu Ser Gln Pro Val Phe Gln	

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135

cat att gcg cag tat cgc gcg ggc att gtg ccg gtg agc tat cgc cgc	480
His Ile Ala Gln Tyr Arg Ala Gly Ile Val Pro Val Ser Tyr Arg Arg	
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gtg ccg tgc cgc cgc cgc ggc ggc att cgc ttt acc att aac ggc cat	528
Val Pro Cys Arg Arg Arg Gly Gly Ile Arg Phe Thr Ile Asn Gly His	
165 170 175	
agc tat ttt aac ctg gtg ctg att acc aac gtg ggc ggc gcg ggc gat	576
Ser Tyr Phe Asn Leu Val Leu Ile Thr Asn Val Gly Gly Ala Gly Asp	
180 185 190	
gtg cat gcg gtg agc att aaa ggc gcg acc acc gat tgg cag ccg atg	624
Val His Ala Val Ser Ile Lys Gly Ala Thr Thr Asp Trp Gln Pro Met	
195 200 205	
agc cgc aac tgg ggc cag aac tgg cag agc aac gcg aac ccg aac ggc	672
Ser Arg Asn Trp Gly Gln Asn Trp Gln Ser Asn Ala Asn Pro Asn Gly	
210 215 220	
cag cgc ctg agc ttt aaa gtg acc acc agc gat ggc cgc acc ctg gtg	720
Gln Arg Leu Ser Phe Lys Val Thr Thr Ser Asp Gly Arg Thr Leu Val	
225 230 235 240	
agc aac aac gtg gcg ccg ccg aac tgg agc ttt ggc cag acc ttt gcg	768
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Gly Ala Gln Phe Asn	
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Trp Thr Asp Ala His Ala Thr Phe Tyr Gly Gly Ser Asp Ala Ser Gly	
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Thr Met Gly Gly Ala Cys Gly Tyr Gly Asn Leu Tyr Ser Gln Gly Tyr	
50 55 60	
Gly Thr Asn Thr Ala Ala Leu Ser Thr Ala Leu Phe Asn Asn Gly Leu	
65 70 75 80	
Ser Cys Gly Ser Cys Phe Glu Ile Lys Cys Ala Ser Ser Ile Ser Gly	

Gly Gly Lys Trp Cys Leu Pro Gly Gly Ser Ile Thr Val Thr Ala Thr
100 105 110

Asn Phe Cys Pro Pro Asn Asn Ala Leu Pro Asn Asn Ala Gly Gly Trp
115 120 125

Cys Asn Pro Pro Leu Gln His Phe Asp Leu Ser Gln Pro Val Phe Gln
130 135 140

His Ile Ala Gln Tyr Arg Ala Gly Ile Val Pro Val Ser Tyr Arg Arg
145 150 155 160

Val Pro Cys Arg Arg Arg Gly Gly Ile Arg Phe Thr Ile Asn Gly His
165 170 175

Ser Tyr Phe Asn Leu Val Leu Ile Thr Asn Val Gly Gly Ala Gly Asp
180 185 190

Val His Ala Val Ser Ile Lys Gly Ala Thr Thr Asp Trp Gln Pro Met
195 200 205

Ser Arg Asn Trp Gly Gln Asn Trp Gln Ser Asn Ala Asn Pro Asn Gly
210 215 220

Gln Arg Leu Ser Phe Lys Val Thr Thr Ser Asp Gly Arg Thr Leu Val
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Cys Gly Tyr Gly Asn Leu Tyr Ser Thr Gly Tyr Gly Thr Asn Thr Ala	
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gcg ctg agc acc gcg ctg ttt aac aac ggc ctg acc tgc ggc gcg tgc	144
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35 40 45	
tat gaa ctg acc tgc aac aac gat ccg cgc ggc tgg tgc ctg agc ggc	192
Tyr Glu Leu Thr Cys Asn Asn Asp Pro Arg Gly Trp Cys Leu Ser Gly	
50 55 60	
acc att atg gtg acc gcg acc aac ttt tgc ccg ccg aac ccg agc ctg	240
Thr Ile Met Val Thr Ala Thr Asn Phe Cys Pro Pro Asn Pro Ser Leu	
65 70 75 80	
ccg aac gat aac ggc ggc tgg tgc aac ccg ccg cgc cag cat ttt gat	288
Pro Asn Asp Asn Gly Gly Trp Cys Asn Pro Pro Arg Gln His Phe Asp	
85 90 95	
ctg gcg gaa ccg gcg ttt ctg cag att gcg cag tat aaa gcg ggc att	336
Leu Ala Glu Pro Ala Phe Leu Gln Ile Ala Gln Tyr Lys Ala Gly Ile	
100 105 110	
gtg ccg gtg aac tat cgc cgc gtg ccg tgc cag aaa aaa ggc ggc att	384
Val Pro Val Asn Tyr Arg Arg Val Pro Cys Gln Lys Lys Gly Gly Ile	
115 120 125	
cgc ttt acc att aac ggc cat agc ttt ttt aac ctg gtg ctg gtg acc	432
Arg Phe Thr Ile Asn Gly His Ser Phe Phe Asn Leu Val Leu Val Thr	
130 135 140	
aac gtg ggc ggc gtg ggc gat gtg cat agc gtg agc att aaa ggc agc	480
Asn Val Gly Gly Val Gly Asp Val His Ser Val Ser Ile Lys Gly Ser	
145 150 155 160	
aac ggc ggc tgg cag ccg ctg agc cgc aac tgg ggc cag aac tgg cag	528
Asn Gly Gly Trp Gln Pro Leu Ser Arg Asn Trp Gly Gln Asn Trp Gln	
165 170 175	
agc aac agc tat ctg aac ggc cag agc ctg agc ttt cag gtg acc acc	576
Ser Asn Ser Tyr Leu Asn Gly Gln Ser Leu Ser Phe Gln Val Thr Thr	
180 185 190	
agc gat ggc cgc acc gtg acc agc tat gat gtg gcg ccg cgc ggc tgg	624
Ser Asp Gly Arg Thr Val Thr Ser Tyr Asp Val Ala Pro Arg Gly Trp	
195 200 205	
cag ttt ggc cag acc ttt gaa ggc ggc cag ttt	657
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20 25 30

Ala Leu Ser Thr Ala Leu Phe Asn Asn Gly Leu Thr Cys Gly Ala Cys
35 40 45

Tyr Glu Leu Thr Cys Asn Asn Asp Pro Arg Gly Trp Cys Leu Ser Gly
50 55 60

Thr Ile Met Val Thr Ala Thr Asn Phe Cys Pro Pro Asn Pro Ser Leu
65 70 75 80

Pro Asn Asp Asn Gly Gly Trp Cys Asn Pro Pro Arg Gln His Phe Asp
85 90 95

Leu Ala Glu Pro Ala Phe Leu Gln Ile Ala Gln Tyr Lys Ala Gly Ile
100 105 110

Val Pro Val Asn Tyr Arg Arg Val Pro Cys Gln Lys Lys Gly Gly Ile
115 120 125

Arg Phe Thr Ile Asn Gly His Ser Phe Phe Asn Leu Val Leu Val Thr
130 135 140

Asn Val Gly Gly Val Gly Asp Val His Ser Val Ser Ile Lys Gly Ser
145 150 155 160

Asn Gly Gly Trp Gln Pro Leu Ser Arg Asn Trp Gly Gln Asn Trp Gln
165 170 175

Ser Asn Ser Tyr Leu Asn Gly Gln Ser Leu Ser Phe Gln Val Thr Thr
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<210> 5
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<213> Craterostigma plantagineum

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ggc gcg tgc ggc tat ggc aac ctg tat agc cag ggc tat ggc acc aac Gly Ala Cys Gly Tyr Gly Asn Leu Tyr Ser Gln Gly Tyr Gly Thr Asn 20 25 30	96
acc gcg gcg ctg agc acc acc ctg ttt aac aac ggc ctg gcg tgc ggc Thr Ala Ala Leu Ser Thr Thr Leu Phe Asn Asn Gly Leu Ala Cys Gly 35 40 45	144
agc tgc tat cag gtg cgc tgc gaa ggc ggc ccg aaa tgg tgc gtg cgc Ser Cys Tyr Gln Val Arg Cys Glu Gly Gly Pro Lys Trp Cys Val Arg 50 55 60	192
ggc ggc gat cgc att att acc gtg acc gcg acc aac ttt tgc ccg ccg Gly Gly Asp Arg Ile Ile Thr Val Thr Ala Thr Asn Phe Cys Pro Pro 65 70 75 80	240
aac tat gcg ctg gcg aac gat aac ggc ggc tgg tgc aac ccg ccg cgc Asn Tyr Ala Leu Ala Asn Asp Asn Gly Gly Trp Cys Asn Pro Pro Arg 85 90 95	288
cag cat ttt gat atg gcg cag ccg gcg ttt gtg cgc att gcg cat tat Gln His Phe Asp Met Ala Gln Pro Ala Phe Val Arg Ile Ala His Tyr 100 105 110	336
cgc gcg ggc att gtg ccg att agc tat cgc cgc gtg agc tgc gtg aaa Arg Ala Gly Ile Val Pro Ile Ser Tyr Arg Arg Val Ser Cys Val Lys 115 120 125	384
aaa ggc ggc att cgc ctg acc att aac ggc cat agc tat ttt aac ctg Lys Gly Gly Ile Arg Leu Thr Ile Asn Gly His Ser Tyr Phe Asn Leu 130 135 140	432
gtg ctg gtg agc aac gtg ggc ggc agc ggc gat gtg cat gcg gtg tgg Val Leu Val Ser Asn Val Gly Gly Ser Gly Asp Val His Ala Val Trp 145 150 155 160	480
att aaa ggc agc ggc ggc ggc ccg tgg cag gcg atg acc cgc aac tgg Ile Lys Gly Ser Gly Gly Gly Pro Trp Gln Ala Met Thr Arg Asn Trp 165 170 175	528
ggc cag aac tgg cag agc aac agc tat ctg gat ggc cag agc ctg agc Gly Gln Asn Trp Gln Ser Asn Ser Tyr Leu Asp Gly Gln Ser Leu Ser 180 185 190	576
ttt att gtg cgc gcg ggc gat ggc cgc acc gtg acc gcg aac gab att Phe Ile Val Arg Ala Gly Asp Gly Arg Thr Val Thr Ala Asn Xaa Ile 195 200 205	624
gtg ccg cgc ggc tgg cag ttt ggc cag acc ttt gaa ggc ccg cag ttt Val Pro Arg Gly Trp Gln Phe Gly Gln Thr Phe Glu Gly Pro Gln Phe 210 215 220	672

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<223> The 'xaa' at location 207 stands for Glu, or Asp.

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 20 25 30

Thr Ala Ala Leu Ser Thr Thr Leu Phe Asn Asn Gly Leu Ala Cys Gly
 35 40 45

Ser Cys Tyr Gln Val Arg Cys Glu Gly Gly Pro Lys Trp Cys Val Arg
 50 55 60

Gly Gly Asp Arg Ile Ile Thr Val Thr Ala Thr Asn Phe Cys Pro Pro
 65 70 75 80

Asn Tyr Ala Leu Ala Asn Asp Asn Gly Gly Trp Cys Asn Pro Pro Arg
 85 90 95

Gln His Phe Asp Met Ala Gln Pro Ala Phe Val Arg Ile Ala His Tyr
 100 105 110

Arg Ala Gly Ile Val Pro Ile Ser Tyr Arg Arg Val Ser Cys Val Lys
 115 120 125

Lys Gly Gly Ile Arg Leu Thr Ile Asn Gly His Ser Tyr Phe Asn Leu
 130 135 140

Val Leu Val Ser Asn Val Gly Gly Ser Gly Asp Val His Ala Val Trp
 145 150 155 160

Ile Lys Gly Ser Gly Gly Gly Pro Trp Gln Ala Met Thr Arg Asn Trp
 165 170 175

Gly Gln Asn Trp Gln Ser Asn Ser Tyr Leu Asp Gly Gln Ser Leu Ser
 180 185 190

Phe Ile Val Arg Ala Gly Asp Gly Arg Thr Val Thr Ala Asn Xaa Ile
 195 200 205

Val Pro Arg Gly Trp Gln Phe Gly Gln Thr Phe Glu Gly Pro Gln Phe
 210 215 220

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